

Burnley Borough Council Carbon Budget Report

Background and targets

Following the Climate Emergency declaration in 2019, Burnley Borough Council has worked to establish its carbon budget to monitor their direct and indirect emissions (scope 1, 2 and 3 emissions) and to plan reduction targets and actions necessary to reach net zero.

The terms 'net zero' and 'carbon neutral' are sometimes used interchangeably and with varying definitions; for clarity, the definitions Burnley Borough Council are observing are the following.

Carbon Neutral: 'Although often used interchangeably with 'net-zero', the two are not the same. In general, when companies claim carbon neutrality they are counterbalancing CO2 emissions with carbon offsets without necessarily having reduced emissions by an amount consistent with reaching net-zero at the global or sector level. This may conceal the need for deeper emissions reductions that are in line with what the science requires for the world to keep global warming to 1.5°C. Carbon neutrality claims also do not necessarily cover non-CO2 GHGs'¹.

Net Zero: 'Since the 2015 United Nations Paris Agreement, the concept of 'Net Zero' has become established as a target for climate policy and adopted by many countries, companies and other organisations. It means that all sources of emissions are reduced as close to zero as possible and that any emissions that cannot be avoided are compensated for by an equal amount of active removal of emissions from the atmosphere' [offsetting or carbon capture and storage]. ... 'for a Net Zero commitment by a particular date to be consistent with the temperature goal of the Paris Agreement, it must also be combined with ambitious emissions reductions over the whole period between now and reaching Net Zero'².

The UK target is net zero by 2050, with an emissions reduction of 78% by 2035³. Burnley Borough Council is working alongside this target but are also carrying out further analysis and modelling works to determine if an earlier net zero target is feasible for their direct and indirect emissions (scope 1, 2, and 3).

The Council is currently working on establishing a net zero target that is as ambitious as possible, whilst remaining achievable. This will involve calculating the estimated costs and timescales necessary to undertake carbon reduction actions, including the retrofit of buildings and leisure facilities, the transition to electric fleet, and the move to renewable energy. This will also allow time to calculate and incorporate further scope 3 emissions into the Council's carbon budget, including procurement and waste.

In the meantime, the Council will continue to monitor and reduce their emissions in line with UK climate law to reach net zero by 2050 at the latest. The Council has also committed to being **carbon neutral by 2030**.

The Council is implementing a range of strategic interventions that have been identified through the climate change strategy and the carbon budget. The main strategic actions identified to reduce the Council's emissions are renewable energy schemes, decarbonising council buildings and ensuring excellent energy efficiency, sourcing green energy tariffs, and transferring to electric fleet. The carbon budget will monitor areas of highest emissions and continue to identify areas of focus for climate actions. Alongside this, the Council is working

¹ <https://sciencebasedtargets.org/blog/net-zero-jargon-buster-a-guide-to-common-terms>

² <https://www.theccc.org.uk/wp-content/uploads/2020/10/CCC-Insights-Briefing-3-The-UKs-Net-Zero-target.pdf>

³ <https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035>

to ensure every member of staff is Carbon Literacy certified to imbed climate action across all departments.

The Council is working towards net zero at the earliest opportunity and part of this process it will need to calculate, monitor, and reduce all Scope 3 emissions. Costs of analysing our supply chain/ procurement Scope 3 emissions with 'CO2Analysis' will be £9,995 (excluding VAT) for year 1, and £7,500 for years 2 and 3. **Further information attached.**

Carbon budget

Setting a baseline of 2018/19 (from when accurate energy data is available), Burnley Borough Council has mapped its carbon budget and the annual emission reductions needed to reach net zero over various pathways, although it is important to note the required emission reductions will increase when complete scope 3 emissions are incorporated into the carbon budget.

The Council's baseline 2018/19 emissions were 2764.98 tCO₂e, these have reduced slightly each year up until the current reported year 2021/22 where emissions spiked to 2762.49 tCO₂e. The reason for the spike in 2021/22 emissions is mostly due to the addition of St Peter's Leisure centre electricity data, and Sandygate student accommodation gas data. Due to St Peter's being a CHP (combined heat and power) site, and complications with invoices, electricity data is included from 2021/22 onwards due to energy data availability. Similarly, due to availability of Sandygate gas data, gas emissions have been included from 2021/22 onwards (the site was acquired in 2020/21 and electricity data was available and included from that point).

Spikes in emissions are anticipated as the council takes on new buildings, for example, Charter Walk was acquired in August 2021 and data will be included for vacant units and shared areas from 2022/23 onwards. This is usual and any steep spikes or declines in emissions will be reported for full transparency.

Emission scopes

Our carbon budget currently includes all the Council's scope 1 and 2 emissions, and partial scope 3 emissions. Further work will be undertaken to calculate the Council's full scope 3 emissions, this will be incorporated into the carbon budget and reduction targets as soon as possible.

Figure 4 demonstrates that even though all scope 3 emissions have not been recorded yet, this area is currently the second highest area of emissions for the Council. For this reason, partial scope 3 emissions have been included, rather than excluding the data until it is all gathered, as it is important to start understanding and reducing this area too.

Breakdown of emission scopes

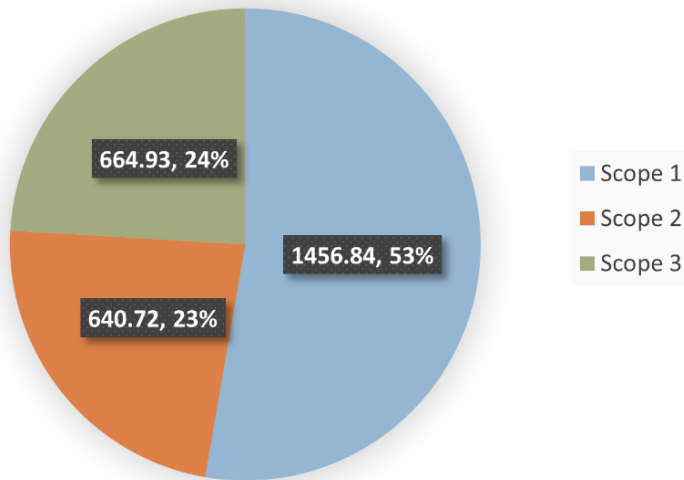


Figure 1: Breakdown of council's emission scopes.

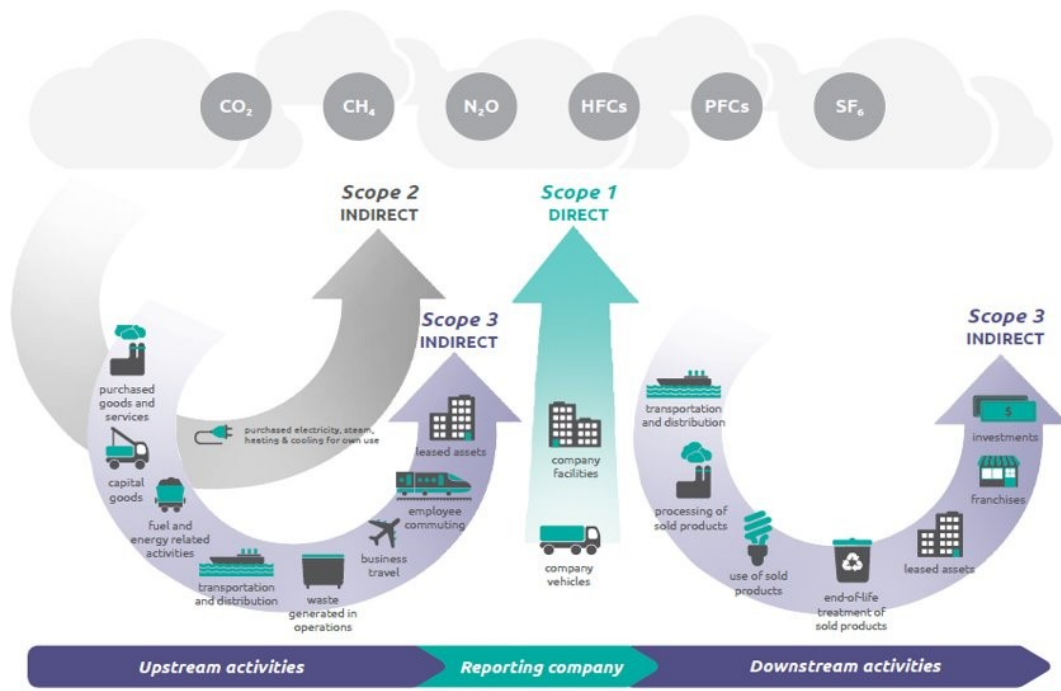


Figure 5: Diagram showing Scope 1, 2 and 3 emissions⁴.

The majority of the Council's emissions are made up of Heating (47.8%), Electricity (23.2%), and Outsourced Fleet* (21.7%) (Figure 6).

*Refuse collection vehicles and street cleaning

⁴ <https://www.local.gov.uk/publications/scope-3-greenhouse-gas-emissions-social-care-guidance-local-authorities>

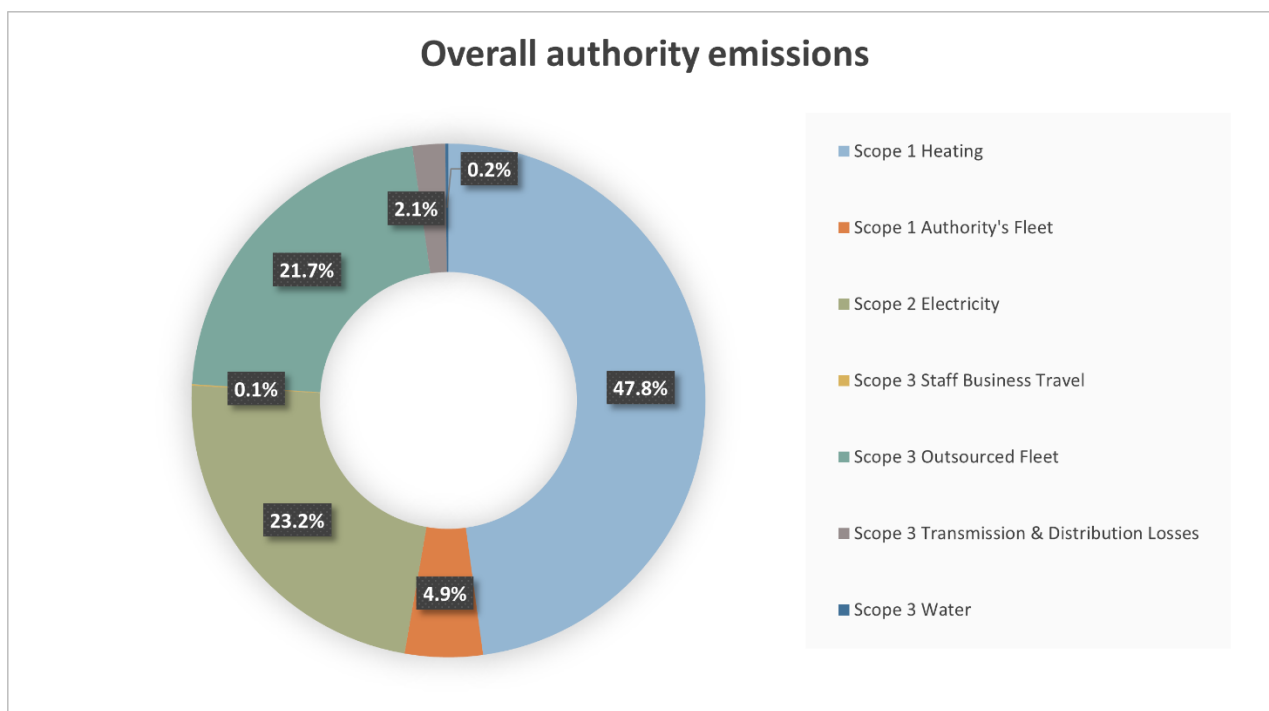


Figure 6: Breakdown of overall authority emissions.

Table 1 shows a complete breakdown of the council's emissions, allowing us to identify key areas of focus as we work to reduce emissions.

Table 1: Complete breakdown of council's emissions. Scope 3 showing as 0 are the areas not yet recorded.

Scope	Emissions Type	Emissions (tCO ₂ e)	Percentage of Total Emissions
Scope 1	Heating	1321.77	47.8%
	Fugitive Emissions	0	0%
	Authority's Fleet	135.07	4.9%
Scope 2	Electricity	640.72	23.2%
Scope 3	Staff Business Travel	2.32	0.1%
	Outsourced Fleet	600.32	21.7%
	Transmission & Distribution Losses	56.70	2.1%
	Water	5.59	0.2%
	Material Use	0.00	0%
	Waste generated from own operations	0.00	0%
	Outsourced Scope 3	0.00	0%
Total Emissions		2762.49	100%

As two of the major areas of emissions for the Council are Heating (47.8%) and Electricity (23.2%), a building list has been compiled, identifying the council buildings responsible for the highest gas and electricity usage (Tables 2 & 3). This will allow us to identify areas where emissions can be monitored and reduced, and energy efficiency or renewable energy schemes can be implemented where possible.

Table 2: Top 10 buildings with highest gas use 2021/22.

Building	Gas (kWh)	Emissions (tCO2e)
St Peter's Leisure Centre	2889397.64	529.22
Crematorium	655273.25	120.02
Padiham Pool/ Leisure Centre	498146.04	91.24
Sandygate Student Accommodation	487578.00	89.30
Burnley Town Hall	357985.15	65.57
Towneley Hall Art Gallery & Museum	260949.41	47.80
Burnley Market Hall	255012.21	46.71
Padiham Town Hall	218207.55	39.97
Civic Offices, Parker Lane	202727.69	37.13
Mechanics Institute	189018.58	34.62

Table 3: Top 10 buildings with highest electricity use 2021/22.

Building	Electricity (kWh)	Emissions (tCO2e)
St Peter's Leisure Centre	769817.00	163.46
Burnley Town Hall	135976.00	28.87
Sandygate Student Accommodation	107683.00	22.86
Prairie Sports Village	104016.00	22.09
Briercliffe Bowling	102359.60	21.73
Padiham Pool/ Leisure Centre	100641.00	21.37
Civic Offices, Parker Lane	92806.10	19.71
Burnley Market Hall	91399.00	19.41
Mechanics Institute	85421.90	18.14
Towneley Hall Art Gallery & Museum	72904.90	15.48

* Due to being a CHP (combined heat and power) site, and complications with invoices, St Peter's Leisure Centre electricity data is included from 2021/22 onwards due to energy data availability. This has contributed to the spike in emissions recorded for 2021/22.

** Sandygate student accommodation was acquired during 2020/21. Due to availability of Sandaygate gas data, gas emissions have been included from 2021/22 onwards. This has contributed to the spike in emissions recorded for 2021/22.

*** Charter Walk acquired in August 2021, data will be included for vacant units and shared areas from 2022/23 onwards.

The top 10 buildings with the highest combined gas and electricity emissions have also been identified (Table 4), highlighting areas for key focus.

Table 4: Top 10 buildings with highest gas and electricity use 2021/22.

Building	Gas and electricity (kWh)	Emissions (tCO2e)
St Peter's Leisure Centre	3659214.64	692.68
Crematorium	683971.25	126.11
Padiham Pool/ Leisure Centre	598787.04	112.61
Sandygate Student Accommodation	595261.00	112.17
Burnley Town Hall*	494820.15	94.62
Burnley Market Hall	346411.21	66.11
Towneley Hall Art Gallery & Museum	333854.31	63.28
Civic Offices Parker Lane	295533.79	56.84
Mechanics Institute	274440.48	52.76
Prairie Sports Complex	242113.43	47.38

*Including Town Hall car park off Yorke Street

Heating and electricity make up 71% of the Council's carbon footprint, with a total of 1,962.49 TCO2e (as of 2021/22).

The top 10 buildings emit 1424.56 TCO2e, which is over 50% (51.6%) of the Council's total emissions for 2021/22 (2,762.42 TCO2e).

The top 5 buildings emit more than 1,000 TCO2e (1138.19 TCO2e), which is 41.2% of the Council's total emissions for 2021/22 (2,762.42 TCO2e). Figure 7 shows a breakdown of this.

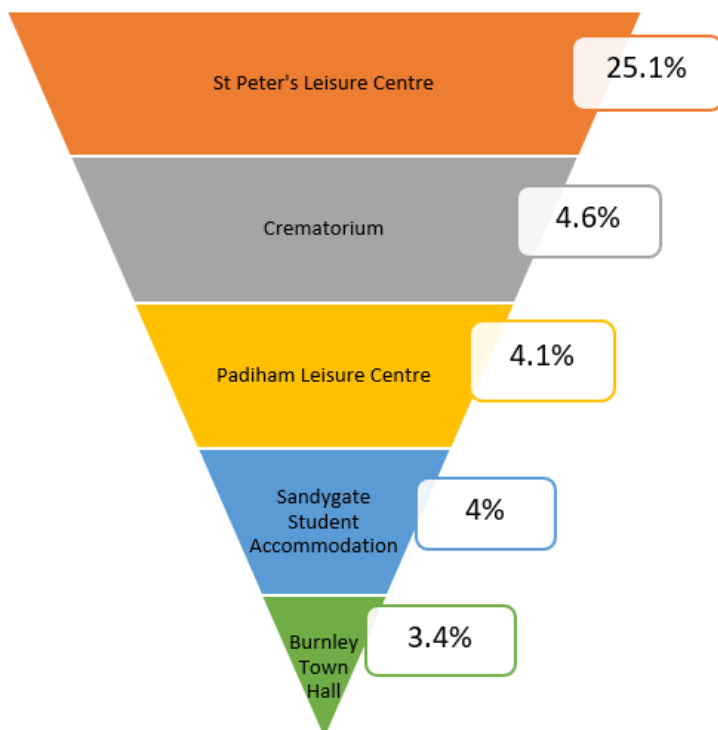


Figure 7: Top 5 buildings with highest gas and electricity, showing percentage of council's total emissions for 2021/22.

Table 5: Emission type definitions.

Scope	Emissions Type	Definition
Scope 1	Heating	Heating for all council buildings.
	Fugitive Emissions	Emissions not caught by a capture system which are often due to equipment leaks, evaporative processes and windblown disturbances ⁵ .
	Authority's Fleet	Vehicles used mostly in Green Spaces, and other services directly. This comes from Fuel Card data and Depot fuel deliveries for Parks vehicles plant and equipment.
Scope 2	Electricity	Electricity for all council buildings.
Scope 3	Staff Business Travel	As submitted on claims forms.
	Outsourced Fleet	Fuel used by Urbaser Waste collection and Street Cleansing only. This does not include Liberata staff vehicle claims.
	Transmission & Distribution Losses	Refers to the energy lost as electricity is transmitted across the transmission network from generation to directly connected demand or grid supply point ⁶ .
	Water	Water use for all council buildings.
	Material Use	Procurement and use of materials – food and drink, plastics, electrical items, paper and board, etc.
	Waste generated from own operations	Waste and recycling from council's own operations.
	Outsourced Scope 3	Emissions that come from activities provided to the local authority by other parties, including heating, fugitive emissions from refrigerants/air conditioning units, etc., vehicles, electricity usage in buildings, provider staff travel, usage of materials by providers, waste generated by outsourced operations, etc. E.g., procured goods and services and outsourced contracts ⁷ .

The GHG Protocol splits emissions into three distinct reporting scopes:

Scope 1 emissions are released as a direct result of an activity. For a local authority this will largely comprise combustible fuel for heating boilers and fuel burned in owned fleet vehicles. There may also be an element of fugitive emissions from air conditioning units and medical gases used in care provision.

Scope 2 emissions are those released as an indirect consumption of an energy commodity. For a local authority this will be the purchased grid electricity used in its operations (buildings, street lighting and for charging Electric Vehicles (EV)).

Scope 3 emissions are all other indirect emissions other than electricity. The measurement of Scope 3 emissions is an emerging area, and they usually represent 70-80 per cent of a local authority's total emissions⁸.

⁵ <https://www.eea.europa.eu/help/glossary/eea-glossary/fugitive-emission>

⁶ <https://www.nationalgrid.com/sites/default/files/documents/8589939704-Guidance%20on%20the%20impact%20of%20Locational%20Transmission%20losses%20on%20transmission%20charges.pdf>

⁷ <https://www.local.gov.uk/climate-change-reporting-guidance-local-authorities>

⁸ <https://www.local.gov.uk/climate-change-reporting-guidance-local-authorities>